Revision Test-2020
Physics

Class 11th

Theoritical - 70
Practical - 30
Total -100

Instructions:

1. All Questions are Compulsory. Internal Options are givens in Question No. 5 to 18
2. Each question from question Nos. 1 to 4 carry 5 marks and each sub-question carries 1 mark.
3. Each question from question Nos. 5 to 7 carry 2 marks and word limit for for each answer is approx 30 words.
4. Each question from question Nos. 8 to 10 carry 3 marks and word limit for for each answer is approx 75 words.
5. Each question from question Nos. 11 to 15 carry 4 marks and word limit for for each answer is approx 120 words each.
6. Each question from question Nos. 16 to 18 carry 5 marks and word limit for for each answer is approx 150 words each.
7. Draw neat and labeled diagrammed where ever necessary.

Q-1 Choose the Correct Answer-

(A) Which pair of the following physical Quantities dose not have equal dimensional formula.
(a) Work and torque (b) angular momentum and plank's constant (c) Tension force and surface tension

(B) Which of the following is formula of pressure
(a) Force/Area (b) Energy/Volume (c) Energy/Area (d) Force/Volume

(C) What is the angle between A = $\hat{\imath} + \hat{\jmath}$ and B = $\hat{\imath} - \hat{\jmath}$
(a) 45^0 (b) 90^0 (c) -45^0 (d) 180^0

(D) A body is freely falling in Vacuum due to gravitational force. Which of the following Quantity does not changes during free fall?
(a)Kinetic energy (b) Potential energy (c) Total Mechanical energy (d) Total linear momentum

(E) Which body does not have Centre of mass with in body?
(a) Pencil (b) Sphere (c) dice (d) Bangle

Q-2 Fill in the blanks -

(A) If the speed of an airplane gets double. Its kinetic energy will increase .....times.
(B) Physical Quantity.....changes if rotational axis changes.
(C) Distance travelled by a body in straight direction is called.....
(D) Sir C.V. Raman got Noble prize for his discovery named .....in.....year.
(E) 1 Micron = ...meter.

Q-3 Match the following:-

1- Unit of retardation	(a) Conservation of momentum
2- Kinetic energy of a Particle moving with uniform circular motion	(b) Newton/meter
3- Rocket propulsion	(c) mgh
4- Unit of spring constant	(d) meter/sec^2
5- gravitational potential energy	(e) always constant
	(f) towards the centre

Q-4 Give answers in one word/sentence:-

(a) If the unit of force is 1N, of length l and time s. Then what will be the unit of mass in this system of measurement.
(b) If a football is kicked vertically, what will be its acceleration and velocity at maximum height?
(c) Suppose a body is lifted from earth to height H. what will be the sigh of work done on it by gravitational field.
(d) Give an example of situation when kinetic energy does not change on imposing force on body.
(e) The human heart work 0.5 joule in single beat and if heart beats 72 times in a minute. Calculate the power of heart.

Q-5 What is the principle of homogeneity of dimensions?

OR

What will be acceleration of a body? That reaches to velocity 10m/s in three seconds. Initially body was at rest.

Q-6 What does mean by resolution of a vector?

OR

What do you understand by angular displacement?

Q-7 If A = $2\hat{\imath} + 2\hat{\jmath} + p\hat{k}$ and B = $2\hat{\imath} - \hat{\jmath} + \hat{k}$ are perpendicular to each other. Calculate the value of p.

OR

Write Newton's law of gravitation.

Q-8 Write any two differences between elastic and inelastic collision.

OR

Moment of inertia of a fly wheel is 4kg/m^2 and if 10 N torques is applied on it. Calculate its angular acceleration.

Q-9 Prove that - Angular momentum = moment of Inertia X angular velocity

OR

What is Conservation of angular momentum?

Q-10 What do you understand by frequency and time period? Establish relation between them.

OR

If speed and radius of the path of a body moving in circular motion. What will be the changes in centrifugal force?

Q-11 Short out vector and scalar physical quantities.
Velocity, angular frequency, displacement, angular velocity, volume, speeds, mass, acceleration, density.

OR

What is Triangle law of vector addition? Explain it.

Q-12 If a heavy body and light weight body have equal kinetic energy. Which one will have more momentum?

OR

Explain positive, negative and zero work with example.

Q-13 Write four uses of dimensional equation.

OR

If time period T of a simple pendulum depends on effective length l and gravitational acceleration g. Derive formula of time period using dimensional equation method.

Q-14 Derive second equation of motion using velocity-time graph.

OR

What is work-energy theorem? Prove it for constant force.

Q-15 Define angle of friction and angle of repose and prove that the angle of friction and the angle of repose are equal.

OR

Calculate work done to pull a spring.

Q-16 Deduce the expression for energy loss in one dimensional inelastic collision.

OR

Derive expression for the maximum secure speed of a vehicle in a circular path.

Q-17 find the expression of centrifugal acceleration for a uniform circular motion.

OR

Explain the geometrical significance of product of two vectors. Write their proper line.

Q-18 Establish relationship between torque and moment of inertia.

OR

Explain angular acceleration and prove that -
Linear acceleration = Angular acceleration X Distance of particle from axis.

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Evaluation Scheme for Practical

Subject - Physics **M.M-30**

Class - XII

Two experiments one from each section	**8+8 marks**
Practical record (experiments and activities)	**7 marks**
Viva on experiments and activities	**7 marks**
Total	**30 marks**

Note: 50% of the total experiments and activities should be included in examination.